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Horticulture - Plant Pathology

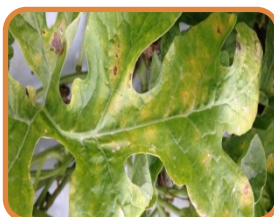
Watermelon Fungicide Guide for 2018

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Four foliar diseases reduce watermelon yields in the southeastern United States. Gummy stem blight and powdery mildew are the most common.



Gummy stem blight is large, round spots on the edges of leaves and dry cankers on the main stem. The best fungicides are Luna Experience, Switch, or Inspire Super.



Powdery mildew is yellow spots on the top of leaves and white powdery mildew on the bottom. It shows up during dry periods. The best fungicides are, Vivando, Quintec, or Torino.



Downy mildew starts as brown or yellow, round or irregular spots that spread quickly. If seen, spray immediately with Ranman or Orondis Opti, followed by the other fungicide the next week.



Anthracnose starts as dark, irregular spots with points like a star. It also affects vines and young fruit. The best fungicides are mancozeb, chlorothalonil, Flint, or Cabrio.

Step-by-Step Spraying

1. **Start spraying when vines start to run**, no later than when the first (male) flowers open.
2. From vine run until mid-May, spray every 10 days.
3. After mid-May, **spray every week through harvest regardless of the weather**. Downy or powdery mildew can attack any time a crop goes more than a week without a fungicide.
4. Apply fungicides, allowing time to dry, before a predicted rain rather than after.
5. **Do not stop spraying until one week before the final picking.**

Scouting for Diseases

- Walk fields weekly, the day before spraying.
- Yellow spots on leaves are symptoms of powdery mildew or downy mildew. Look for spores on the underside of leaves in the early morning. Get help if you can't tell which disease you have.
- Brown spots are usually gummy stem blight or anthracnose. Anthracnose also shows up as tan, narrow, sunken spots on vines.

Get the Most Out of Spraying

- Rotate fields to crops other than cucurbits for two years in between watermelon and cantaloupe to help control gummy stem blight and anthracnose.
- Chlorothalonil and mancozeb protect against gummy stem blight, downy mildew, and anthracnose; chlorothalonil also protects against powdery mildew.
- For best control after disease starts, use systemic fungicides (option "b" in the spray programs).

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Spray Programs

- The spring program is designed to manage bacterial fruit blotch, bacterial leaf spot, gummy stem blight, powdery mildew, anthracnose, Cercospora leaf spot, and downy mildew on watermelon.
- The fall program is designed to manage gummy stem blight, downy mildew, anthracnose, and powdery mildew.
- Week-by-week rotation is built into the spray programs for systemic fungicides, like tebuconazole, to reduce the risk of fungicide resistance.
- Tebuconazole, Inspire Super, and Luna Experience have a 7-day pre-harvest interval (PHI) on watermelon. These fungicides should not be sprayed during the harvest period, weeks 6 to 8 in the spray programs. When harvest begins early, skip ahead to spray #6. Mancozeb and Gavel have a 5-day PHI.
- See the current edition of the *Southeastern U.S. Vegetable Crop Handbook* for more information: www.growingproduce.com/southeasternvegetablecrop/handbook/

Spray	Fungicide Program for Spring Watermelon*	Comments on Spring Program	Fungicide Program for Fall Watermelon*
1 (vine run)	mancozeb + fixed copper	To prevent bacterial leaf spot and fruit blotch.	chlorothalonil
2	chlorothalonil	If fruit blotch or bacterial leaf spot is a concern, use mancozeb + fixed copper instead. Do not tank mix copper with chlorothalonil.	tebuconazole (+ <u>Quintec</u>)
3a**	tebuconazole	Tebuconazole controls only gummy stem blight.	chlorothalonil + Ranman
3b**	or tebuconazole (+ Flint)	Add Flint if anthracnose fruit rot was found on your farm the previous year.	
4	chlorothalonil or mancozeb	If fruit blotch or bacterial leaf spots are a concern, substitute mancozeb + fixed copper.	Quadris Top
5a**	mancozeb + <u>Quintec</u>	Starting week 5, use mancozeb to avoid injury to fruit on hot, sunny days. Note 5-day PHI on mancozeb. Use <u>Luna Experience</u> if gummy stem blight is present, but note 7-day PHI.	mancozeb plus Orondis Opti or Orondis Ultra
5b**	or <u>Luna Experience</u>		
6a	Gavel	Note 5-day PHI on Gavel.	Switch
6b	or mancozeb plus Orondis Opti or Orondis Ultra	Tank mix Orondis products with mancozeb to protect against gummy stem blight and anthracnose.	
7a**	mancozeb + <u>Vivando</u>	Use Switch if gummy stem blight is present.	Gavel
7b**	or Switch+ <u>Vivando</u>		
8	mancozeb + Ranman		chlorothalonil
9-12	If more sprays are needed after spray 8, apply sprays 5 to 8 again until the last harvest.		

*Fungicides for downy mildew are in **bold**, and should be used if downy mildew has been reported on watermelon in the current season (<http://cdm.ipmpipe.org/>). Fungicides for powdery mildew are underlined and should be applied all spring and during dry periods in fall.

**Option “a” is a lower cost treatment that may be less effective. Option “b” is a more expensive systemic fungicide that is more effective when disease is already in the field or when weather conditions favor disease getting worse.

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